**DENSION**
Audio Systems

# INSTALL GUIDE

## ice▸Link  Gateway 500 MOST

State of the art car integration
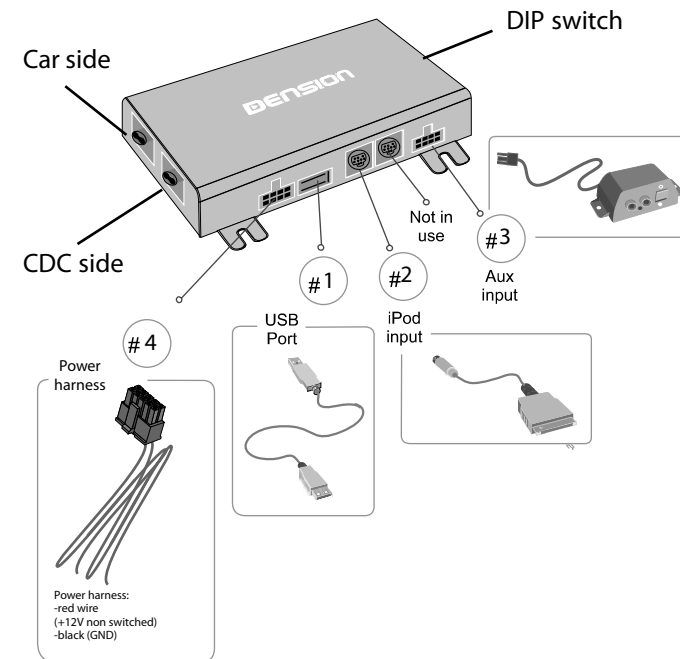for media players, USB and
Bluetooth devices

DEGW5-9210-7

Made for iPod  •←•  ✱  **MOST**

## Introduction

Gateway 500 emulates a CD changer and uses CD changer controls to access offboard audio sources including iPod, USB devices and Dension Gateway accessories. If your car is not already equipped with a CD changer, it may be necessary to have the car programmed by your dealer in order to accept a CD changer (typically the case for BMW and Porsche). Special note for BMW: for song title display and browsing, it is necessary to have the BMW "MP3 Retrofit" software option programmed by your car dealer. A quick test of your car's capability to display song titles and browse music is to see whether you can browse an MP3 data CD inserted in the car's single CD slot. If you can, then the BMW MP3 Retrofit is already installed in the car.

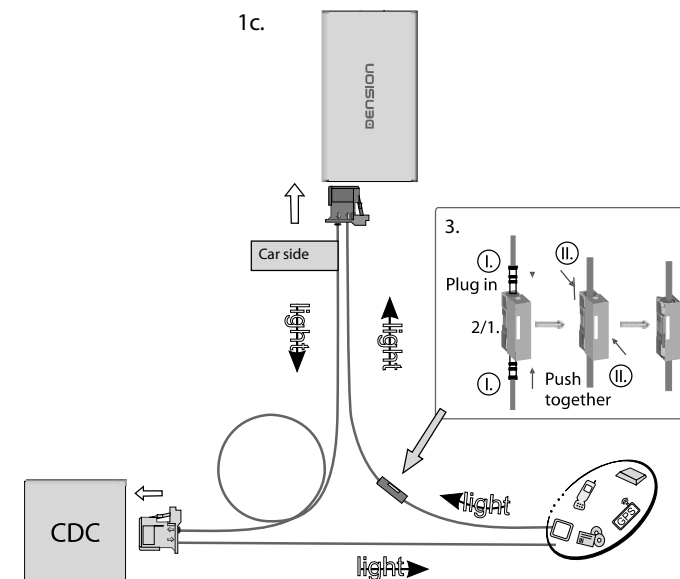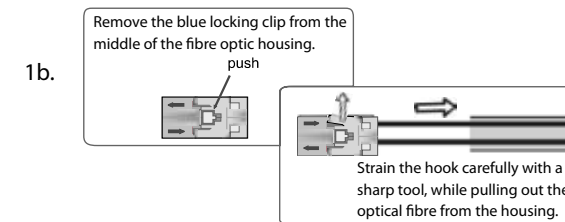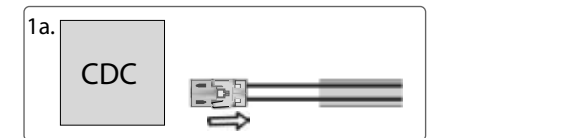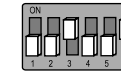## Package Content & Electrical Installation



Car side
DIP switch
CDC side
Not in use
#3
Aux input
#1  #2
#4
USB Port
iPod input
Power harness
Power harness:
-red wire
(+12V non switched)
-black (GND)

## Installation Type 1:

### Vehicles supporting multiple CD changers and equipped with a CD changer

• **Audi A4/A5/A6/A8/Q7 with MMI High (colour)**

These vehicles allow selection of Gateway audio sources and the original CD changer through the existing car audio controls.

**Set the DIP switches to the following position and install the Gateway 500 as illustrated below:**



1a.
CDC

1b.
Remove the blue locking clip from the middle of the fibre optic housing.
push
Strain the hook carefully with a sharp tool, while pulling out the optical fibre from the housing.

1c.
DENSION
Car side
3.
I. Plug in II.
2/1.
I. Push together II.
CDC
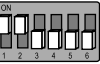light

## Installation Type 2a:

### Vehicles with an existing CD changer

These vehicles allow selection of Gateway audio sources and the original CD changer by switching the mode between CD Changer and Gateway mode.

Audi (MMI Basic Monochrome)
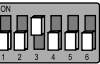
BMW E87, E90, E60/61, E63/E64, E70, E65 and Mini
(Exept E60/61, E63/E64 Business)

BMW E60/61, E63/E64 Business
(M-ASK, non-text capable)
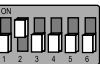
Mercedes (Audio 20/50 and Comand)

Porsche (CDR 23/24 and PCM I/II/2.1) for longer CDC and car side cable use FOA1PO1

CDR    PCM
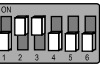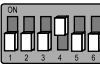
Saab 9-3 (Rear CDC)
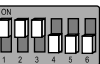
Volvo XC90 - MY 2002-2006, with Performance, High Performance and Premium sound system, without AUX input, with CDC



DENSION
Car side    CDC side
light
CDC
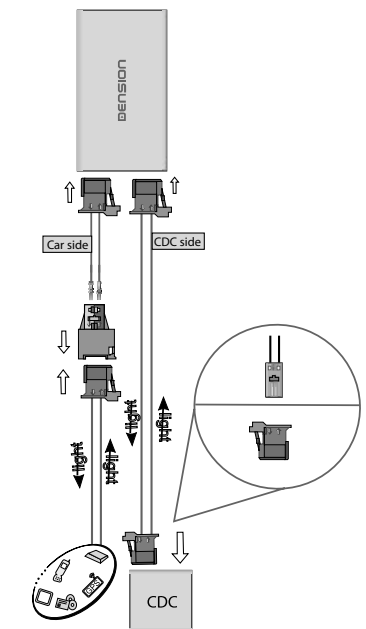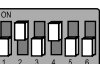
## Installation Type 2b:

Volvo S40/V50 - MY 2004-2007 with Basic and High Performance sound system, without AUX input, with CDC

**Car side**

**ICM (Display)**

I. Plug in
2/1.
I. ↑ Push together
II.

## Installation Type 3a:

### Vehicles with no existing CD changer

Set the dip switches as shown below.

Audi (MMI Basic Monochrome)

BMW E87, E90, E60/61, E63/E64, E70, E65 and Mini (Exept E60/61, E63/E64 Business)

BMW E60/61, E63/E64 Business (M-ASK, non-text capable)
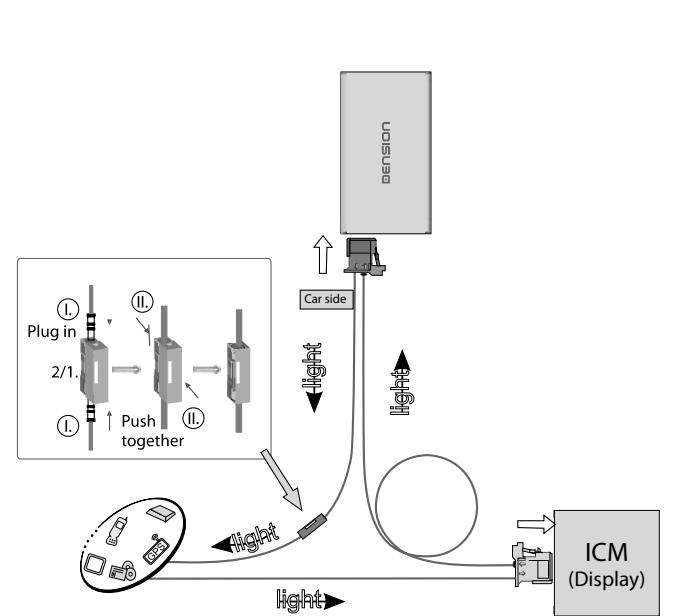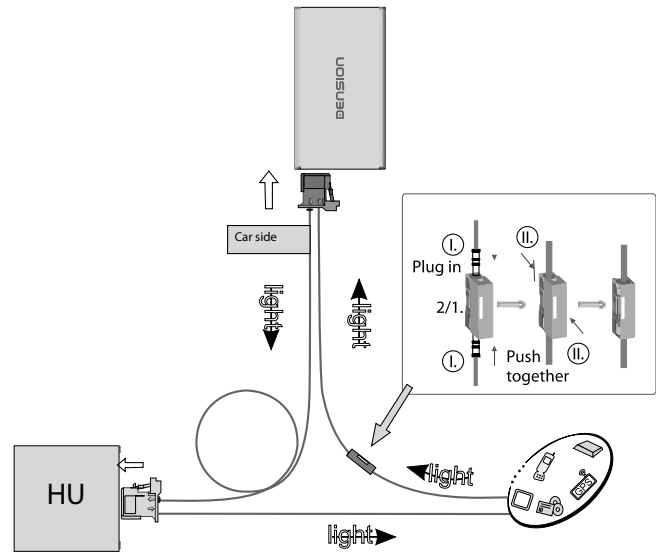
Mercedes (Audio 20/50 and Comand)

Porsche (CDR 23/24 and PCM I/II/2.1)

CDR   PCM

Saab 9-3 (Rear CDC)

If you are connecting Gateway 500 to the back of the head unit, use this diagram:

**Car side**

**HU**

I. Plug in
2/1.
I. ↑ Push together
II.

## Installation Type 3b:

If you are installing to a free fibre optic connector in the car (CDC preparation) use this method:

**Car side**
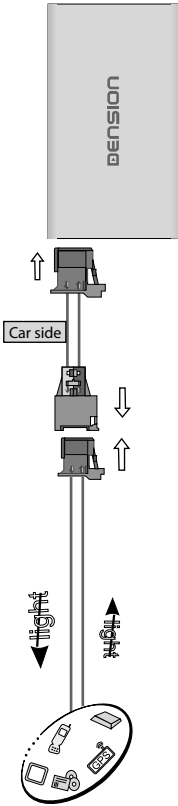
## Text Configuration

ℹ Saab & Mercedes vehicles require final configuration of the Gateway as not all of the radios in these vehicles support text display. After Gateway 500 has been installed, toggle the mode selector switch six times (three times on/off) and a configuration menu will appear on the radio display. Select the configuration mode according to your head unit listed in the configuration table. To confirm the selection press and hold ▶▶; to discard the selection press and hold ◀◀

| Track # | Config | Mercedes Command | Saab Text |
|---------|--------|------------------|-----------|
| # 1 | NO TEXT | D | D |
| # 2 | Timeout | - | - |
| # 3 | Text | - | - |
| # 4 | +Cache | - | - |
| # 5 | +Paging | R | R |
| # 6 | +Select | - | R |

D: Default, R: Recommended

For detailed information visit:
http://support.dension.com

Reset
Mode selector
LED
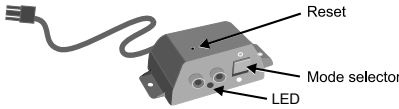
## When servicing your vehicle

ℹ You must set the mode selector switch to service mode/bypass, CD Changer/ position otherwise the service computer may detect an unknown device in the fibre optic system which can lead to errors reported.

Service/CDC mode
Gateway 500
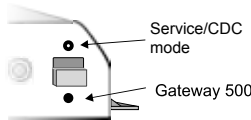
# GEN: Gateway enabler tool for Gateway 500 MOST BMW

# User Manual

v1.0

xxxxxx

xxxxxxxx

## 1   Introduction

**Introduction**

The Dension Gateway Enabler tool (GEN tool) provides a quick and easy tool to help the installation of a respective Dension Gateway product for BMW vehicles with MOST system.

The proper functioning of the Gateway product requires that certain protocols in the car radio are enabled, which is not necessarily the case in all BMW vehicles. Enabling these protocols normally requires the car diagnostics tool of a BMW specialised workshop.

The GEN tool provides only the specific enabling/disabling diagnostics function without any other capabilities, which makes it a small and available device to help the installation/removal of the Gateway product.

**Important note**

When using the GEN tool for enabling, it gets linked to the specific Dension Gateway and the car it is installed to. Therefore:

- The Gateway has to be installed to the system before using the GEN tool.

- You cannot enable multiple cars with a single GEN tool.

- Keep the GEN tool with the owner of the Gateway as it may be needed in the future (e.g. when moving the Gateway to a different vehicle).

If the Dension gateway functions without using the GEN tool, please do not use the GEN tool.

The compatibility of the GEN tool may differ from the compatibility of the Gateway product. Please check the corresponding compatibility tables.

## 2   Compatibility

The GEN tool is compatible with the following vehicles:

| | |
|---|---|
| **1 Series**<br>**E81, E82, E87, E88** | NON i-Drive, Professional |
| | i-Drive, Business<br>(M-ASK, 6.5", single slot) |
| | i-Drive, Professional<br>(CCC, 8.8", dual slot) |
| **3 Series**<br>**E90, E91, E92, E93** | NON i-Drive, Professional |
| | i-Drive, Business<br>(M-ASK, 6.5", single slot) |
| | i-Drive, Professional (CCC, 8.8",<br>dual slot) |
| | iDrive 4, Proffesional<br>(CIC, 8.8", dual slot ) |
| **5 Series**<br>**E60, E61** | i-Drive, Business<br>(M-ASK, 6.5", single slot) |
| | i-Drive, Professional<br>(CCC, 8.8", dual slot) |
| **6 Series**<br>**E63/E64** | i-Drive, Business<br>(M-ASK, 6.5", single slot) |
| | i-Drive, Professional<br>(CCC, 8.8", dual slot) |
| **X5**<br>**E70** | i-Drive, Business<br>(M-ASK, 6.5", single slot) |
| | i-Drive, Professional<br>(CCC, 8.8", dual slot) |

## 3 Getting Started

First install the Gateway 500 according to the installation manual. It is recommended that the installation and using the GEN tool is performed by a professional installer.

### Using the GEN Tool

Please make sure the Gateway 500 is in Gateway mode. Turn the ignition ON and connect the GEN tool to the OBD 2 diagnostic connector. The enabling procedure starts automatically and immediately and it takes approx. 20-30 seconds. During the enabling procedure the status signal LED on the GEN tool is flashing alternating Green and Red. When the enabling procedure is finished successfully the LED will turn to permanent green.

After the successful enabling the Audio system will restart. Do not remove the GEN tool before the restart of the audio system.

The GEN tool is capable of enabling almost all BMW vehicles with a MOST optical system, (see the compatibility table above). However, there may be very specific vehicle configurations and set-ups where the GEN tool is not operational and the enabling procedure cannot be completed. In such cases the LED on the GEN tool turns RED at the end of the enabling procedure.

If the LED is blinking RED, please check the GEN tool connection and make sure the ignition is turned ON.

If the problem still persists please contact your local supplier or open a support ticket at www.dension.com.

## 4 Servicing Your Vehicle

Vehicles with a MOST optical communication network have complex system management capabilities, and servicing may involve using a diagnostic computer. To avoid conflict with such diagnostics devices, Dension recommends disabling the previously activated functions.

### How to disable

First set the mode selector switch on the Gateway Connector Port to service /bypass mode. Turn the ignition ON and connect the GEN tool to the OBD 2 diagnostic connector. The disabling procedure starts immediately and takes approx. 20-30 seconds. During the enabling procedure the status signal LED on the GEN tool is flashing alternating Green and Red. When the disabling procedure is finished the LED will turn to permanent green.

After the successful enabling the Audio system will restart. Do not remove the GEN tool before the restart of the audio system.

### Association of the GEN Tool, the Gateway and the Vehicle

The GEN tool is delivered in a ready-to-enable state, which means that when plugging the GEN tool in to a vehicle with a gateway installed properly it will perform the enabling process automatically. At the same time it also associates to the specific vehicle and gateway.

If a GEN tool has already been associated to a vehicle and a Gateway product, it means it is in a ready-to disable status. This means that when plugging a GEN tool in to the vehicle it is associated with it will perform the disabling process. After the successful disabling process the GEN tool will clear its associations and return to a ready-to enable state.

If a GEN tool is in ready-to-disable status and plugged in to a different vehicle than the one it is associated to it does not perform any action and remains in ready-to-disable.

If the Gateway has been removed without disabling the vehicle, the associated GEN tool in ready-to-disable mode can still disable the vehicle and change to ready-to-enable mode.

## 5 Disclaimer and Warranty

### Disclaimer

The GEN tool does not have all vehicle diagnostics and configuration functions that are available in other diagnostics tools. It is meant to help gateway installations only and to work on the big majority of the BMW vehicles with MOST systems where the respective Dension Gateway product is functional.

Despite all efforts and several tests Dension and its authorised distributors and retailers cannot guarantee for all vehicles that by using the GEN tool there is no need for enabling with a professional diagnostics tool.

The GEN tool can in many cases replace the enabling functions of a professional diagnostics tool, but in no way replaces the professional skills of a trained installer.

If your car's electrical system begins to behave erratically, please disconnect the GEN tool and the Gateway interface physically immediately and have it checked by your installer. Dension and its authorised distributors and retailers are not liable for any incidental consequential or indirect damages or loss and do not assume liability for any diagnostic fees.

Dension reserves the right to modify its products or specifications without prior notice.

### Warranty

Dension devices carry a one-year limited warranty that protects you from defects in material and workmanship of products sold by Dension or its authorized distributors and retailers. Dension does not warrant any installation work or assume liability for any damage caused due to negligence, improper installation or operation. For warranty claims, proof of purchase is required.
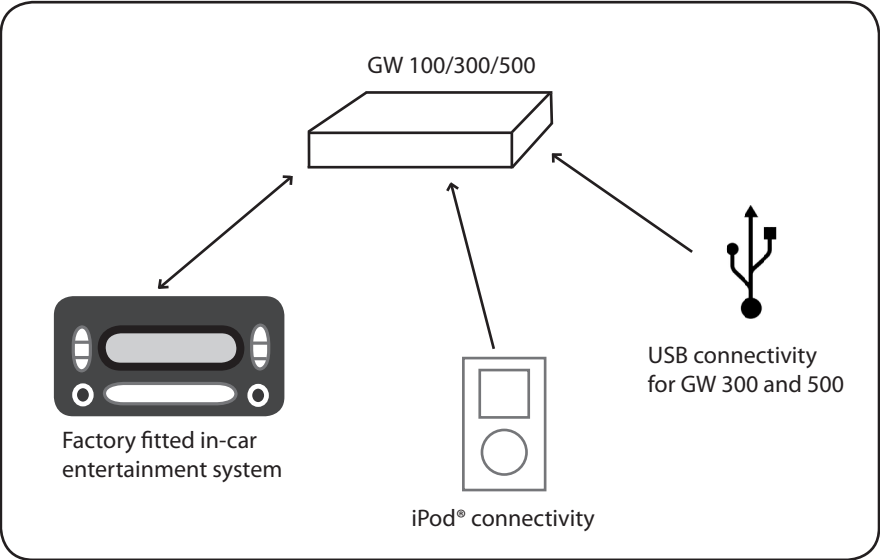
### Further Assistance

If you need further assistance in using your Dension Gateway, please contact your local supplier or visit www.dension.com and click on 'Support'.

## 1. Introduction

This user guide provides you with information on how to control and play your external audio device through a car entertainment system using a Dension Gateway (GW) interface.
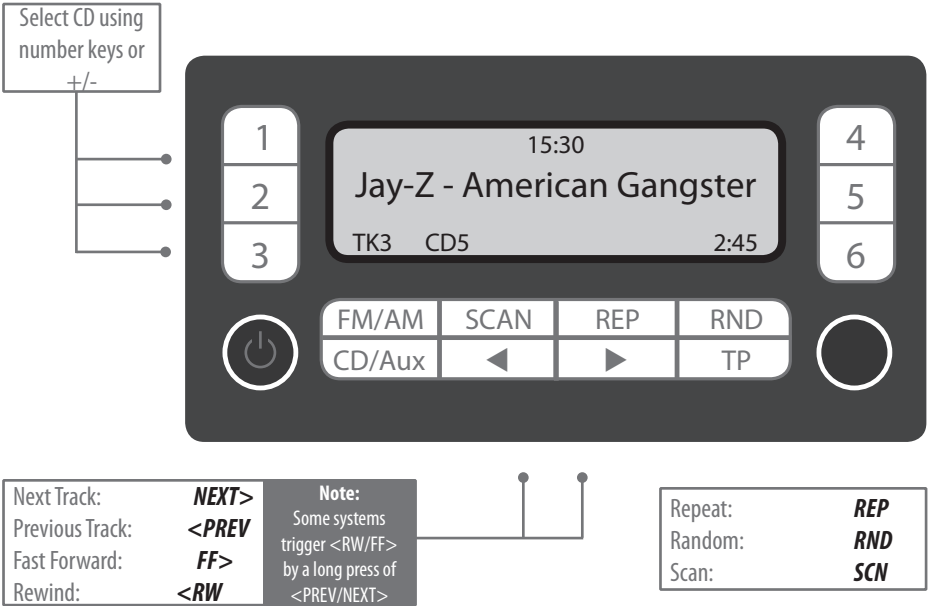
It is assumed that the GW interface is already installed and correctly configured for your vehicle. For assistance with installation, please refer to the *Dension Gateway Installation and Configuration Guide*.

GW 100/300/500

USB connectivity for GW 300 and 500

Factory fitted in-car entertainment system

iPod® connectivity

## 2. Car entertainment system requirements

**This user guide does not provide information regarding operation with any specific car entertainment system. Please note the following:**

1. Dension Gateway (GW) devices generally connect to the CD changer or auxiliary input on the car entertainment system. Please check www.dension.com for specific compatibility details.

2. If the vehicle has an existing CD changer it will be disabled by GW 100 and 300 unless an optional Dension CD Changer Retention module is also installed.

3. We use the conventions listed below to describe control of the GW from your car entertainment system. Please refer to your car entertainment system's owner's manual for specific details of its operation.

Select CD using number keys or +/-

| 1 | | 4 |
|---|---|---|
| 2 | 15:30 | 5 |
| 3 | Jay-Z - American Gangster | 6 |
| | TK3    CD5              2:45 | |

| FM/AM | SCAN | REP | RND |
|-------|------|-----|-----|
| CD/Aux | ◄ | ► | TP |

| Next Track: | **NEXT>** |
|-------------|-----------|
| Previous Track: | **<PREV** |
| Fast Forward: | **FF>** |
| Rewind: | **<RW** |

**Note:** Some systems trigger <RW/FF> by a long press of <PREV/NEXT>

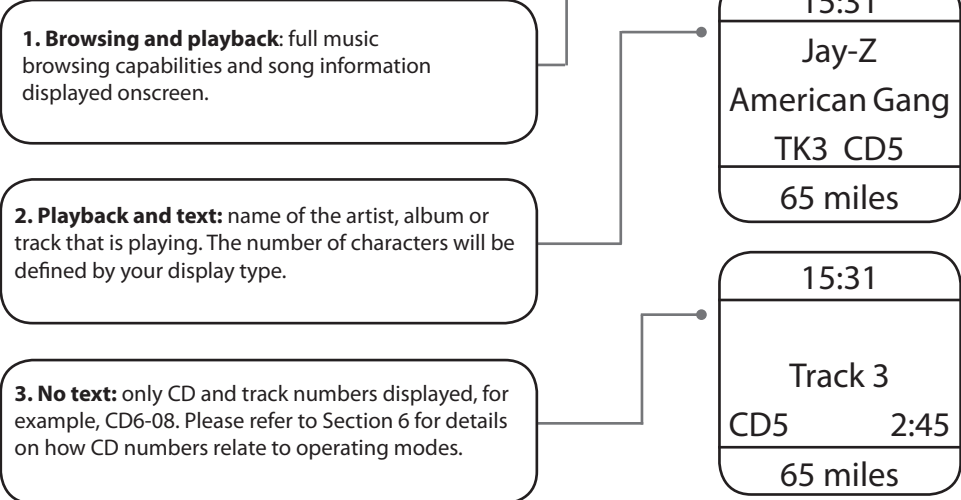| Repeat: | **REP** |
|---------|---------|
| Random: | **RND** |
| Scan: | **SCN** |

## 3. Text, browsing and song information

Even if your car entertainment system is unable to display text, you can control your external audio device with a Dension Gateway (GW).

If your car entertainment system has text capabilities, details of how to enable them are provided in the *Dension Gateway Installation & Configuration Guide*.

We refer to the different types of car entertainment system as follows:

**1. Browsing and playback**: full music browsing capabilities and song information displayed onscreen.

**2. Playback and text:** name of the artist, album or track that is playing. The number of characters will be defined by your display type.

**3. No text:** only CD and track numbers displayed, for example, CD6-08. Please refer to Section 6 for details on how CD numbers relate to operating modes.

| 15:31 |
|-------|
| Source |
| Playlists |
| Albums |
| 65 miles |

| 15:31 |
|-------|
| Jay-Z |
| American Gang |
| TK3  CD5 |
| 65 miles |

| 15:31 |
|-------|
| Track 3 |
| CD5           2:45 |
| 65 miles |

## 4. External audio devices

The following external audio devices are supported:

| iPod® | **Dock cable** "(IPO4DC9)"  Mini, 4G, 4G Photo, Nano, Nano 2G, Nano 3G, Nano 4G, 5G video, Classic, touch, touch 2G, iPhone 1G and iPhone 3G<br>**Active Cradle** "(IP34CR9)"  iPod 4G, 4G Photo, Nano 2G, Nano 3G, 5G video, Classic, iPhone 1G, touch 1G |
|-------|------|
| USB | Flash memory or hard disk drives (USB mass storage)<br>Music formats: MP3/WMA/Ogg/WAV<br>File systems: FAT16/ FAT32 |
| Auxiliary Audio | GW 100 and 300 feature a 3.5mm stereo line input<br>GW 500 features an RCA stereo line input |
| Bluetooth<br>(requires optional Dension BTA series accessory) | A2DP/AVRCP profiles for audio playback<br>HFP profile for handsfree telephony<br>Refer to your car's user manual and the BTA 1500 user manual for telephone and telephone book operation |
| CD Changer<br>(requires optional Dension CD retention kit) | Vehicle's existing original equipment if installed. This is a standard feature for GW 500 in certain vehicles |

## 5. Using the Dension Gateway

Before you start, please check that your iPod is up to date. You can get iPod firmware updates from www.apple.com/support/iPod

1. Connect your external audio device

2. Switch on your car entertainment system

3. Select external CD changer or auxiliary audio (note: In some vehicles (Opel and certain Fords), connection to the GW is made through the Aux port. It will therefore be necessary to select Aux rather than CDC Playback starts from the last selected Dension Gateway audio source.

CD/Aux

## 6. Operating modes

For iPod and USB device control, the following operating modes can be used by selecting the corresponding CD. Use *<PREV/NEXT>* to select and play the playlist, artist, album or track. Dension GW returns to CD5 after 30 seconds of inactivity in any other CD mode.

Text-capable display          Non-text display

**Select CD1:          Playlists/Folders**

This is an alphabetical list of playlists (or folders) on your device. On USB devices, M3U and PLS playlists are selected *before* folders. Select and play the playlist/folder you wish to hear using your car entertainment system's *<PREV/NEXT>* controls. Press **FF>** to play whole playlist/folder.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| ChillOut | | Track4 | |
| Dance | | | |
| NewMusic | | CD1        2.45 | |
| 65 miles | | 65 miles | |

**Select CD2:          Scan Artists**

This is an alphabetical list of artists on your device. Select and play the artist using your car entertainment system's *<PREV/NEXT>* controls. Press **FF>** to play all songs by selected artist. **Note:** this mode is **not** available with the iPod UI audio source.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| Akon | | Track4 | |
| AliciaKeys | | | |
| ChrisBrown | | CD2        2.45 | |
| 65 miles | | 65 miles | |

**Select CD3:          Scan Albums**

This is an alphabetical list of albums on your device. Select and play an album using your car entertainment system's *<PREV/NEXT>* controls. Press FF> to play the whole album. **Note:** for CD1/2/3 if you do not press **FF>** within 30 seconds of making your selection, audio player reverts to original source.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| Graduation | | Track4 | |
| InMyOwnWords | | | |
| Intoxication | | CD3        2.45 | |
| 65 miles | | 65 miles | |

**Select CD4:          Playback Options**

If your system does not have **REP**, **RND** or **SCN** functions, use **CD4** for the following options:  **Repeat** (select REP mode), **Random** (select **RND** mode) and **Scan** (set **SCN** mode - 10 second intro play of each track). For more CD4 functions please see Section 8.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| PlayAll | | Track4 | |
| Repeat | | | |
| Random | | CD4        2.45 | |
| 65 miles | | 65 miles | |

**Select CD5:          Scan Tracks**

The 'normal' use of your car entertainment system's *<PREV/NEXT>* controls, i.e. these keys select and play tracks. **Note:** Dension GW returns to this mode after 30 seconds of inactivity in any other CD mode.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| BecauseOfYou | | Track4 | |
| BeautifulLies | | | |
| Caught | | CD5        2.45 | |
| 65 miles | | 65 miles | |

**Select CD6:          Source/Menu**

The 'Source/Menu' mode shows selected audio devices connected to the Dension GW. Car entertainment systems with Browsing & Playback text capability also provide music browser functions.

**Note:** by pressing *<REW>* you can return to the previous menu. By pressing and holding for five seconds you can jump to the main menu. See Section 7 for source definitions for example, iPodUI.

| 15:31 | | 15:31 | |
|-------|--|-------|--|
| AuxGW | | Track3 | |
| iPodUI | | | |
| iPodGW | | CD5        2.45 | |
| 65 miles | | 65 miles | |

**if your car 's system only supports five CDs, CD4 functions are removed. CD5 and CD6 functions move to CD4 and CD5.**

**Note:** if your vehicle does **not** have text capability, select CD6 on the changer to access the following source modes.

| Track | Source | Description |
|---|---|---|
| 1 | Auxilliary Input | Plays audio from the device connected to the Dension Gateway (GW) auxilliary input |
| 2 | iPod UI | Enables you to use the iPod click wheel for audio selection (recommend for vehicles without Browsing and Play-back capabilities) |
| 3 | ipod GW | Audio selection for the iPod is via the car entertainment system controls (recommended for vehicles with Browsing and Play-back capabilities) |
| 4 | USB | Plays music from the USB device connected to the Dension Gateway (not GW100) |
| 5 | BT Audio | Streams music from the Bluetooth audio device paired with the GW |
| 6 | BT Phone | Provides handsfree telephone functions from the Bluetooth phone paired with the GW |
| 7 | | *Reserved for future use* |
| 8 | | *Reserved for future use* |
| 9 | CDC | GW100/300:<br>Plays CDs from the vehicle's orginal CD changer. To return to GW operation press either **REW**, **RPT** or **SCN** twice. Some vehicles may require power to the entertainment system to be turned off and then back on again (reboot) after the double-press.<br>**Note:** at least one CD must be loaded into the magazine other-wise it is not possible to return to Gateway Dension operation.<br><br>GW 500:<br>Vehicles which support multiple CD changers will list the Gateway operating modes in sequence with the CDs loaded in the vehicle's CD changer. To switch between GW 500 and CD changer on vehicles which do not support multiple CD chang-ers, use the bypass switch on the GW 500 auxilliary input box (some vehicles require a shutdown and cold start for this mode change). |

**CD4 functions (continued from Section 6)**

**PlayAll**
Start playback of all content on your device.

**For USB mass storage devices:**

**Build database**
When using USB content, the Dension Gateway (GW) generates a database for easy Folder/Artist/Album navigation. Normally this will only take a few seconds, but for large capacity drives like a 100GB Hard Drive (HD), it can take up to one hour or more.

If the GW finds tracks have been deleted from the HD or USB content, it will automatically regenerate the database. However, if tracks have been added, this will have to be done manually. Dension are working on software to assist with manual database regeneration (Gateway Utility). Please check www.dension.com for availability.

**Set bookmark**
Bookmark a positon within a track, album or playlist to restart playback from.

**Resume bookmark (USB)**
Playback returns to the position set by the bookmark.

**Help and support**

If you need further assistance in using the Dension Gateway, please contact your local supplier or visit www.dension.com and click on 'support'.

**Disclaimer**

If your car's electrical system begins to behave erratically, please disconnect your Dension Gateway interface immediately and have it checked by your installer. Dension and its authorised distributers and retailers are not liable for any incidental consequential or indirect damages and do not assume liabiliy for any diagnostic fees.

The use of handheld devices while driving may be subject to government legislation. Please ensure that your use of the Dension Gateway complies with applicable traffic laws. Dension does not assume liability for any events resulting from the illegal or irresponsible use of hand-held devices while driving.

**Warranty**

The Dension Gateway interface carries a one-year limited warranty that protects you from defects in material and workmanship of products sold by Dension or its authorised distributers and retailers. Dension does not warrant any installation work or assume liability for any damage caused due to negilgence, improper installation or operation. For warranty claims, proof of purchase is required.

**DENSION**
Audio Systems

**Gateway**

**100 / 300 / 500**

**User Guide**